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ANTWERP INTERNATIONAL EXHIBITION,

1885.

ANALYSES OF IRON ORES

FROM

PICTOU COUNTY, NOVA SCOTIA,

DOMINION OF CANADA.

RED HEMATITE.

BROWN HEMATITE.

SPECULAR ORE.

SPATHOSE ORE.

Information respecting the above can be obtained on
application by letter to

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c/ww

S. H.—Specimen of Specular Iron Ore.

This specimen is from an important deposit of ore occurring on the west side of the East River, in slates and quartzites of Upper Silurian age. The lode ranges in thickness from ten to twenty feet, with occasional side veins. From a single pit which was sunk to a depth of thirty feet on the lode, about fifty tons of ore were obtained. A specimen examined by Dr. T. E. Thorpe of the Andersonian University, Glasgow, contained,

Peroxide of iron.....	96.62	} Metallic iron 68.32
Protoxide of iron.....	0.89	
Sulphide of iron.....	0.06	
Phosphorus.....	none	
Silica and insoluble matter....	3.20	
		100.78

The proximity of the Pictou coal field adds greatly to the value of this and other deposits of ore in the vicinity of the East River.—*Upper Silurian.*

R. H.—Specimen of Red Hematite.

From what is known as the "Great Red Hematite Bed of McLellan's Mountain," an interstratified bed of ore occurring in slates and quartzites. The following analysis of a specimen of the ore is by Dr. Stevenson MacAdam of Edinburgh:

Oxide of iron.....	75.67	} Metallic iron 54.36
Oxide of manganese.....	0.52	
Alumina	0.45	
Carbonate of lime.....	2.44	
Carbonate of magnesia.....	0.98	
Phosphoric acid.....	0.22	
Sulphur	0.29	
Titanic acid.....	trace	
Silica	19.43	
		100.00

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The ore has been found to vary in width from fifteen to thirty feet, the angle of dip ranging from 25° to 75° . The specimen is from about the centre of the area, where a section showed fifteen feet four inches of ore of uniform quality.—*Lower Helderberg formation, Upper Silurian.*

B. H.—Specimen of Fibrous Limonite.

The deposit from which this specimen was obtained has been traced along the north bank of the East Branch of the East River, from Springville to a point seven miles higher up. Several openings have been made, and the lode proved to vary in thickness from six to about twenty-two feet. The following analysis (Rept. of the Geol. Survey, 1873-74, p. 233) shows the ore to be of excellent quality:

Peroxide of iron.....	85.01	} Metallic iron 59.50
Protoxide of manganese....	0.38	
Alumina	0.69	
Lime	0.49	
Magnesia	0.19	
Phosphoric acid.....	traces	
Sulphuric acid	0.55	
Water { hygroscopic.....	0.36	
{ combined.....	10.77	
Insoluble residue	2.14	
Organic matter	traces	
		100.085

Limestone suitable for a flux occurs in the immediate vicinity of the ore, and there are several coal mines in active operation only a few miles off.—*Junction of the Upper Silurian and Carboniferous.*

B. H.—Specimen of Compact Limonite.

On the banks of a small stream near the West Branch of the East River a band of quartzite intersected by numerous reticulating veins of limonite is exposed. The veins are for the most part very thin, but there is one with a thickness of three feet. Judging from the numerous masses of ore scattered over the surface for a considerable distance from the stream, there is some reason to suppose that the deposit will prove of economic value. "The ore is most favorably situated, having near it abundance of wood, water, and limestone, while the Intercolonial Railway passes within a few yards of the area."

The following is an analysis of a compact specimen of a dark brown colour and specific gravity 3.955. (See Report of the Geological Survey for 1873-74, p. 234.)

Peroxide of iron.....	76.930	} Metallic iron 57.718
Protoxide of iron.....	4.972	
Protoxide of manganese.....	0.068	
Alumina	1.019	
Lime	0.313	
Magnesia	0.052	
Silica	5.836	
Phosphoric acid	0.989	
Sulphuric acid	0.114	
Water { hygroscopic	0.175	
{ combined	9.287	
Organic matter.....	0.180	
99.935		

According to an analysis by Dr. T. E. Thorpe, of Glasgow, the ore is free from phosphorus.—*Upper Silurian.*

S.—A Specimen of Spathic or Sparry Iron Ore.

From an irregular bed occurring in sandstones of the Millstone-grit formation. The ore is crystalline, and, where unacted upon by the weather, of a light grey colour. A specimen, evidently somewhat weathered, contained as follows (Report of the Geological Survey, 1866-69, p. 442.)

Sesquioxide of iron.....	16.98	} Metallic iron 43.56
Carbonate of iron.....	65.61	
“ “ manganese	7.98	
“ “ lime	2.67	
“ “ magnesia	3.23	
Silica	3.76	
Sulphur	0.00	
Phosphorus	0.013	
Hygroscopic water.....	0.76	
Organic matter	traces	
101.003		

The bed has been traced for several hundred yards, and where exposed in the bank of a brook has a thickness of about ten feet. According to Dr. Dawson its mode of occurrence is not unlike that of the non-fossiliferous sub-crystalline limestones found in some parts of the Lower Carboniferous series associated with gypsum. This bed is only four miles from the Vale Colliery.—*Millstone-grit formation, Lower Carboniferous.*